

CENTER FOR DISEASE CONTROL

# Morbidity and Mortality



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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE PUBLIC HEALTH SERVICE  
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## CURRENT TRENDS VIRAL HEPATITIS REPORTING

Between August 1, 1973, and January 31, 1974, a study was conducted to determine (1) what percentage of all cases of acute viral hepatitis diagnosed in Greater New Haven, Connecticut (GNH) were reported to the local and/or state health departments and (2) what factors affected the quality of reporting.

In an attempt to obtain a complete count of diagnosed cases, data were collected from 51 physicians (an approximately 33% random sample), the 3 GNH hospitals, all other health facilities (approximately 15), and several secondary sources (large companies, laboratories, health departments, etc.).

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Results indicated that an estimated total of 109 ( $\pm 15$ ) cases of viral hepatitis were diagnosed in the 6-month study period. Thirty-eight of these cases were actually reported, yielding an overall reporting completeness of 34.9% (30.6% -

TABLE I. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
(Cumulative totals include revised and delayed reports through previous weeks)

DISEASE	19th WEEK ENDING		MEDIAN 1970-1974	CUMULATIVE, FIRST 19 WEEKS		
	May 10, 1975	May 11, 1974		1975	1974	MEDIAN 1970-1974
Aseptic meningitis	47	33	30	682	650	664
Brucellosis	6	3	3	63	48	51
Chickenpox	5,631	4,452	---	82,044	72,051	---
Diphtheria	8	9	9	171	103	83
Encephalitis	13	14	20	234	318	375
{ Primary	13	7	6	108	83	101
{ Post-Infectious	243	181	174	4,041	3,292	3,177
Hepatitis, Viral	813	935	1,153	13,324	16,268	20,721
{ Type B	195	134	---	2,919	3,202	---
{ Type A	5	5	35	95	62	495
{ Type unspecified	1,246	987	1,399	12,477	12,889	17,996
Malaria	42	20	46	643	621	664
Measles (rubeola)	42	19	42	627	602	647
Meningococcal infections, total	---	1	1	16	19	28
{ Civilian	1,966	1,700	2,498	31,137	31,381	40,900
{ Military	24	38	---	447	474	---
Mumps	1,711	386	1,291	9,738	6,209	19,103
Pertussis	---	3	3	22	21	30
Rubella (German measles)	722	573	---	11,575	10,822	---
Tetanus	1	1	1	25	34	31
Tuberculosis	5	8	6	89	115	95
Tularemia	22	21	10	58	60	31
Typhoid fever	---	---	---	---	---	---
Typhus, tick-borne (Rky. Mt. spotted fever)	18,891	16,755	---	339,820	309,278	---
Venereal Diseases:	538	573	---	10,616	10,199	---
{ Gonorrhea	418	487	---	9,517	8,976	---
{ Syphilis, primary and secondary	9	9	---	132	165	---
{ Rabies in animals	54	57	87	809	1,103	1,359

TABLE II. NOTIFIABLE DISEASES OF LOW FREQUENCY

	Cum.		Cum.
Anthrax:	---	Poliomyelitis, total:	2
Botulism:	9	{ Paralytic:	1
Congenital rubella syndrome:	8	{ Psittacosis: Calif. 2	14
Leprosy: Fla. 2, Hawaii 1, NYC 2	83	{ Rabies in man:	1
Leptospirosis: La. 2	14	{ Trichinosis: Ohio 1	40
Plague:	1	{ Typhus, murine:	6

## HEPATITIS - Continued

40.4%). Private physicians had a reporting completeness of 16.7%, hospitals 28.1%, and other providers 55.6%.

Two factors existed which accounted for most of the reported cases. One was the health department's policy of supplying free gamma globulin for immediate contacts of reported cases. The other factor was the routine reporting of all positive HBsAg tests by one particular hospital laboratory. When gamma globulin-associated reports are removed, reporting is 28.4% complete. If the hospital laboratory reports are removed from the reported cases, completeness becomes 18.3%. Finally, when both of the above factors are controlled for, the overall reporting completeness is 11.9%.

In an attempt to determine what other factors affected the quality of reporting, the total number of reported cases were classified by type of provider (private physician, hospital, or other health facility), type of hepatitis, and the age, sex, and residence of the ill persons. The hospital laboratory reports mentioned above were then controlled for in each of these groups, and results indicated that (1) hospitals reported almost no cases and (2) hepatitis A was preferentially reported, with 41.2% reported for type A, compared to 5.0% for unspecified cases, and zero percent for type B cases. Age, sex, and residence were unaffected.

Examination of the effect of HBsAg testing on diagnosis revealed that only 58% of reported HBsAg positive cases were actually diagnosed as hepatitis B. Therefore, assuming that all positive cases were hepatitis B infections, 42% of these were misdiagnosed.

Finally, the estimated annual incidence rates of diagnosed cases of hepatitis derived from this study were: 100.1/100,000 for urban residents (55.3 hepatitis A or unspecified, 44.8 hepatitis B) and 23.2/100,000 for suburban residents (17.4 hepatitis A or unspecified, 5.8 hepatitis B).

(Reported by Roger Bernier, MPH, Department of Epidemiology, Johns Hopkins University; Hans Neumann, MD, Director, Preventive Medicine, City of New Haven Health Department, Walter Hierholzer, MD, Assistant Professor, and Robert McCollum, MD, Professor and Chairman, Department of Epidemiology and Public Health, Yale University School of Medicine; James C Hart, MD, State Epidemiologist, Connecticut State Department of Health; several local public health officials, private physicians, and medical providers from East Haven, West Haven, North Haven, Woodbridge, Orange, and Hamden, Connecticut; and the Viral Diseases Division, Bureau of Epidemiology, CDC.)

## Editorial Note

Despite the fact that viral hepatitis has been a reportable disease in the United States since 1952, the percentage of cases reported to health departments remains low. This report suggests that reporting completeness may be as low as 11.9% under certain conditions; the report further suggests that reporting may be selective by type of hepatitis and by type of health facility reporting. In addition, data from CDC's Viral Hepatitis Surveillance Program reveals that from January 1973 through September 1974, 24% of reported HBsAg positive cases were misdiagnosed as hepatitis A by reporting practicing physicians (1). This compares with 42% of reported HBsAg positive cases which were misdiagnosed by institutional providers in the Greater New Haven Study. Since the morbidity and risk of sequelae from hepatitis B are greater than for hepatitis A, such diagnostic errors may result in gross underestimates of the public health significance and economic impact of hepatitis B in the United States.

## Reference

1. Bryan JA, Gregg MB: Viral hepatitis in the United States: 1970-1973: An analysis of morbidity trends and the impact of HBsAg testing on surveillance and epidemiology. *Am J Med Sci* (In press)

## EPIDEMIOLOGIC NOTES AND REPORTS

## SKIN RASH ASSOCIATED WITH POOL EXPOSURE - Minnesota

Between February 28 and March 2, 1975, 32 (53%) of 61 weekend guests who used both the heated swimming pool and whirlpool of a motel in Minnesota reported having a pruritic pustular rash, with onset 8 to 48 hours after bathing (Table 1). No rash was reported by 37 motel guests who used neither pool. The rash was generalized, with sparing of the head and neck, and most prevalent in areas covered by bathing suits. No associated systemic complaints were noted, but other infrequent symptoms included sore throat, sore eyes, sore nose, earache, swollen breasts, abdominal cramps, and sinus trouble. The illness resolved within 7 days without specific treatment.

Attack rates were highest during the peak bathing load, which occurred in the afternoon and evening. The highest attack rate was in the 10-19 years group, and the median age of ill bathers was 15 years. Exposed but non-ill persons had a median age of 31 years. Showering within 1 hour of pool use did not significantly reduce the risk of illness (Table 2).

Table 1  
Skin Rash Associated With Pool Use  
Bloomington, Minnesota, 1975

	Used Pools	Did Not Use Pools	Total
Ill	32	0	32
Well	29	37	66
Total	61	37	98

P < .001 by Fisher's exact test.

Table 2  
Showering Associated With Skin Rash  
Bloomington, Minnesota, 1975

	Showered	Did Not Shower	Total
Ill	15	16	31
Well	21	9	30
Total	36	25	61

P = .12 by Fisher's exact test.

(Continued on page 171)

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDING MAY 10, 1975 AND MAY 11, 1974 (19th WEEK)

AREA	ASEPTIC MENIN- GITIS	BRUCEL- LOSIS	CHICKEN- POX	DIPHTHERIA		ENCEPHALITIS			HEPATITIS, VIRAL			MALARIA	
						Primary: Arthropod- borne and Unspecified		Post In- fectious	Type B	Type A	Type Unspecified		
	1975	1975	1975	1975	Cum. 1975	1975	1974	1975	1975	1975	1975	1975	Cum. 1975
UNITED STATES	47	6	5,631	8	171	13	14	13	243	813	195	5	95
NEW ENGLAND	1	-	517	-	-	1	1	-	7	19	13	-	4
Maine *	-	-	3	-	-	-	-	-	-	1	-	-	1
New Hampshire *	1	-	45	-	-	-	-	-	-	3	-	-	-
Vermont	-	-	-	-	-	-	-	-	3	1	-	-	-
Massachusetts	-	-	176	-	-	-	-	-	2	2	12	-	2
Rhode Island	-	-	85	-	-	-	-	-	1	5	-	-	-
Connecticut	-	-	208	-	-	1	1	-	1	7	1	-	1
MIDDLE ATLANTIC	5	3	485	-	-	2	2	2	52	109	41	1	16
Upstate New York	1	-	292	-	-	1	-	-	1	34	10	1	4
New York City	2	-	192	-	-	1	-	-	16	29	-	-	7
New Jersey	-	-	NN	-	-	-	-	-	17	28	25	-	3
Pennsylvania	2	3	1	-	-	-	2	2	18	18	6	-	2
EAST NORTH CENTRAL	3	-	2,114	-	2	1	2	-	22	142	4	-	1
Ohio *	1	-	187	-	-	1	-	-	2	50	-	-	-
Indiana	-	-	118	-	-	-	-	-	2	11	-	-	-
Illinois	-	-	306	-	1	-	1	-	7	20	-	-	1
Michigan	2	-	942	-	1	-	1	-	7	55	4	-	-
Wisconsin	-	-	561	-	-	-	-	-	4	6	-	-	-
WEST NORTH CENTRAL	1	-	1,072	6	6	1	1	1	20	33	6	-	3
Minnesota	-	-	17	-	-	1	-	-	19	11	-	-	1
Iowa	-	-	294	-	-	-	1	-	1	3	3	-	-
Missouri *	1	-	250	-	-	-	-	-	-	6	3	-	2
North Dakota *	-	-	13	6	6	-	-	1	-	1	-	-	-
South Dakota	-	-	-	-	-	-	-	-	-	-	-	-	-
Nebraska	-	-	6	-	-	-	-	-	-	-	-	-	-
Kansas	-	-	492	-	-	-	-	-	-	12	-	-	-
SOUTH ATLANTIC	8	2	520	-	-	2	-	5	41	161	32	-	11
Delaware	-	-	15	-	-	-	-	-	-	-	1	-	-
Maryland	-	-	53	-	-	-	-	-	11	12	5	-	1
District of Columbia *	-	-	23	-	-	-	-	-	-	-	-	-	-
Virginia *	-	1	61	-	-	1	-	-	3	10	-	-	4
West Virginia	-	-	183	-	-	-	-	-	-	-	-	-	1
North Carolina	5	-	NN	-	-	-	-	-	9	27	7	-	3
South Carolina	2	-	45	-	-	-	-	-	2	10	6	-	-
Georgia	-	1	9	-	-	-	-	-	-	27	-	-	-
Florida	1	-	131	-	-	1	-	5	16	75	13	-	2
EAST SOUTH CENTRAL	5	-	67	-	-	1	1	-	10	59	-	-	8
Kentucky	-	-	31	-	-	-	-	-	1	19	-	-	4
Tennessee	3	-	NN	-	-	-	1	-	4	25	-	-	-
Alabama	2	-	28	-	-	-	-	-	4	11	-	-	3
Mississippi	-	-	8	-	-	1	-	-	1	4	-	-	1
WEST SOUTH CENTRAL	13	1	464	-	1	2	2	2	28	82	14	3	12
Arkansas	-	-	-	-	-	-	-	-	-	3	-	-	1
Louisiana	9	-	NN	-	-	1	2	-	7	12	4	-	-
Oklahoma *	3	-	49	-	-	1	-	-	-	13	6	-	1
Texas	1	1	415	-	1	-	-	2	21	54	4	3	10
MOUNTAIN	-	-	110	-	14	-	1	-	10	49	29	-	10
Montana	-	-	20	-	-	-	-	-	-	1	2	-	-
Idaho	-	-	6	-	-	-	-	-	-	1	-	-	-
Wyoming	-	-	1	-	-	-	-	-	-	-	-	-	-
Colorado	-	-	47	-	-	-	-	-	5	2	9	-	8
New Mexico	-	-	3	-	1	-	-	-	-	14	-	-	-
Arizona	-	-	-	-	13	-	-	-	4	14	9	-	2
Utah	-	-	33	-	-	-	1	-	1	16	9	-	-
Nevada	-	-	-	-	-	-	-	-	-	1	-	-	-
PACIFIC	11	-	282	2	148	3	4	3	53	159	56	1	30
Washington	1	-	183	2	143	2	-	-	5	19	21	-	2
Oregon	-	-	-	-	-	-	-	-	8	18	6	-	-
California *	6	-	-	-	2	1	4	3	40	115	28	-	25
Alaska	-	-	14	-	3	-	-	-	-	2	-	-	-
Hawaii	4	-	85	-	-	-	-	-	-	5	1	1	3
Guam *	-	-	-	-	-	-	-	-	-	-	-	-	-
Puerto Rico	-	-	44	-	-	-	-	-	-	6	-	-	1
Virgin Islands	-	-	1	-	-	-	-	-	-	-	1	-	-

\*Delayed reports: Aseptic Meningitis: N.H. delete 1  
 Chickenpox: Me. 33, Calif. 5, Guam 17  
 Encephalitis primary: Okla. delete 6  
 Hepatitis B: Ohio 1, Mo. 5

Hepatitis A: Me. 3, N.H. 1, Ohio delete 1,  
 Mo. delete 1, N.D. 2, Guam 6  
 Hepatitis unspecified: N.D. 1, D.C. delete 1,  
 Va. delete 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDING MAY 10, 1975 AND MAY 11, 1974 (19th WEEK) - Continued

AREA	MEASLES (Rubeola)			MENINGOCOCCAL INFECTIONS. TOTAL			MUMPS		PERTUSSIS	RUBELLA		TETANUS
	1975	Cumulative		1975	Cumulative		1975	Cum. 1975	1975	1975	Cum. 1975	Cum. 1975
		1975	1974		1975	1974						
UNITED STATES	1,246	12,477	12,889	42	643	621	1,966	31,137	24	1,711	9,738	22
NEW ENGLAND	22	126	599	1	37	36	73	1,084	-	78	1,436	-
Maine *	-	6	25	-	5	1	-	58	-	-	24	-
New Hampshire *	-	19	206	-	1	7	-	58	-	1	267	-
Vermont	18	30	50	-	-	1	-	5	-	8	32	-
Massachusetts *	4	40	193	-	11	10	3	126	-	57	835	-
Rhode Island	-	1	57	-	3	6	12	429	-	1	14	-
Connecticut	-	30	68	1	17	11	58	408	-	11	264	-
MIDDLE ATLANTIC	89	746	5,086	8	59	79	89	1,470	2	172	1,067	3
Upstate New York	46	228	156	1	21	35	31	632	1	22	100	-
New York City	6	82	290	3	12	12	22	337	-	9	96	1
New Jersey	16	242	4,086	-	4	25	23	240	-	115	691	2
Pennsylvania	21	194	554	4	22	7	13	261	1	26	180	-
EAST NORTH CENTRAL	235	3,657	5,027	2	94	74	761	13,283	4	588	2,511	-
Ohio	1	69	2,288	-	17	24	54	1,241	-	206	378	-
Indiana	18	299	147	-	5	8	154	1,605	-	129	465	-
Illinois	92	808	970	-	17	9	80	1,374	2	10	166	-
Michigan	81	1,882	1,362	1	44	22	243	6,032	-	126	978	-
Wisconsin *	43	599	260	1	11	11	230	3,031	2	117	524	-
WEST NORTH CENTRAL	315	3,647	450	1	34	46	200	2,473	3	413	1,191	1
Minnesota	-	-	76	1	8	15	3	32	-	-	19	-
Iowa	35	327	18	-	5	10	80	720	-	-	9	-
Missouri *	8	144	165	-	17	10	65	714	3	314	659	1
North Dakota *	28	839	25	-	-	1	7	365	-	10	57	-
South Dakota	25	313	24	-	-	2	-	4	-	-	4	-
Nebraska	32	282	2	-	1	1	1	28	-	-	7	-
Kansas	187	1,742	140	-	3	7	44	610	-	89	436	-
SOUTH ATLANTIC	5	140	346	4	123	119	150	2,039	5	307	796	8
Delaware	3	7	5	-	4	3	-	7	-	-	12	-
Maryland	-	-	21	-	11	14	7	62	-	-	1	-
District of Columbia	-	-	3	-	4	-	9	57	-	-	-	-
Virginia	-	13	18	1	13	19	49	479	-	163	188	-
West Virginia	-	98	93	-	4	5	39	794	1	13	149	-
North Carolina	-	-	2	2	26	26	-	47	1	2	21	3
South Carolina *	-	-	31	1	15	12	1	28	1	63	302	1
Georgia	1	2	1	-	8	5	2	4	-	-	-	-
Florida	1	20	172	-	38	35	43	561	2	66	123	4
EAST SOUTH CENTRAL	13	184	79	6	93	67	156	2,698	2	14	667	1
Kentucky	2	69	59	2	39	31	52	1,047	-	2	159	1
Tennessee	11	106	4	3	34	30	74	1,238	-	9	483	-
Alabama	-	3	4	1	12	6	21	258	2	3	18	-
Mississippi	-	6	12	-	8	-	9	155	-	-	7	-
WEST SOUTH CENTRAL	2	123	124	11	107	115	205	2,799	7	55	523	5
Arkansas	-	-	4	-	5	9	-	22	2	-	-	2
Louisiana	-	-	11	3	22	21	22	275	-	23	197	-
Oklahoma	-	20	13	-	8	12	5	90	1	6	73	1
Texas	2	103	96	8	72	73	178	2,412	4	26	253	2
MOUNTAIN	51	843	571	6	24	16	28	464	-	34	362	-
Montana	2	9	303	-	3	1	1	9	-	8	216	-
Idaho	-	4	47	-	2	2	-	5	-	8	31	-
Wyoming	-	-	1	-	-	2	-	-	-	-	-	-
Colorado	46	793	25	1	8	2	27	322	-	15	89	-
New Mexico	1	3	44	-	3	2	-	16	-	3	12	-
Arizona	1	15	10	-	1	4	-	-	-	-	2	-
Utah	1	4	1	4	6	1	-	59	-	-	9	-
Nevada	-	15	140	1	1	2	-	53	-	-	3	-
PACIFIC	514	3,011	607	3	72	69	304	4,827	1	50	1,185	4
Washington	15	97	42	2	12	7	150	2,568	-	6	191	-
Oregon	7	100	-	-	2	8	47	357	-	1	93	-
California	490	2,768	514	1	57	49	104	1,853	1	43	893	4
Alaska	-	-	-	-	-	2	-	35	-	-	-	-
Hawaii	2	46	51	-	1	3	3	14	-	-	8	-
Guam	-	6	6	-	1	1	-	16	-	-	3	-
Puerto Rico	13	337	370	-	1	1	22	433	-	-	14	10
Virgin Islands	1	6	16	-	-	-	35	133	-	-	2	2

\*Delayed reports: Measles: Mass. delete 1, Wisc. 11, Mo. delete 2,  
N.D. 62, S.C. delete 1  
Meningococcal infection: Me. 1

Rubella: Me. 3, N.H. 20, Wisc. 1, Mo. delete 2  
Tetanus: S.C. delete 1

TABLE III. CASES OF SPECIFIED NOTIFIABLE DISEASES: UNITED STATES  
FOR WEEKS ENDING MAY 10, 1975 AND MAY 11, 1974 (19th WEEK) - Continued

AREA	TUBERCULOSIS		TULA- REMIA	TYPHOID FEVER		TYPHUS-FEVER TICK-BORNE (Rky. Mt. spotted fever)		VENEREAL DISEASES (Civilian Cases Only)						RABIES IN ANIMALS
	1975	Cum. 1975	Cum. 1975	1975	Cum. 1975	1975	Cum. 1975	GONORRHEA		SYPHILIS (Pri. & Sec.)		Cum. 1975		
								1975	Cumulative 1974	1975	Cumulative 1974			
UNITED STATES	722	11,575	25	5	89	22	58	18,891	339,820	309,278	418	9,517	8,976	809
NEW ENGLAND	38	434	-	-	8	-	-	581	9,355	7,796	15	344	331	18
Maine	2	29	-	-	-	-	-	51	605	588	-	8	13	16
New Hampshire *	-	16	-	-	-	-	-	11	259	226	-	10	5	-
Vermont	1	7	-	-	-	-	-	28	211	221	-	4	1	-
Massachusetts	29	242	-	-	4	-	-	315	4,467	3,693	11	225	237	1
Rhode Island	-	46	-	-	-	-	-	31	714	636	-	4	6	-
Connecticut	6	94	-	-	4	-	-	145	3,099	2,432	4	93	69	1
MIDDLE ATLANTIC	113	2,042	2	1	16	-	1	2,086	40,499	37,961	71	1,710	1,956	19
Upstate New York	21	300	1	-	3	-	1	244	7,132	7,105	9	169	196	16
New York City	42	858	-	1	7	-	-	684	17,802	16,221	41	1,010	1,120	-
New Jersey	30	393	1	-	3	-	-	523	5,378	5,513	15	279	321	-
Pennsylvania	20	491	-	-	3	-	-	635	10,187	9,122	6	252	319	3
EAST NORTH CENTRAL	77	1,619	-	-	9	1	2	2,939	55,835	49,074	45	775	747	28
Ohio *	30	492	-	-	1	-	1	869	14,755	13,289	8	166	100	4
Indiana	9	206	-	-	-	-	-	99	5,036	4,489	4	54	69	-
Illinois	13	408	-	-	7	1	1	1,105	19,424	15,570	21	382	388	8
Michigan	20	473	-	-	1	-	-	594	11,096	11,440	11	134	154	1
Wisconsin	5	40	-	-	-	-	-	272	5,524	4,286	1	39	36	15
WEST NORTH CENTRAL	20	408	6	1	5	-	1	798	16,702	15,805	8	275	214	181
Minnesota	2	54	-	1	2	-	-	197	3,472	3,413	4	38	27	49
Iowa	2	41	1	-	-	-	-	116	2,253	2,211	-	9	14	35
Missouri	10	212	3	-	3	-	1	307	6,081	5,168	4	183	142	14
North Dakota	-	3	-	-	-	-	-	17	258	255	-	3	2	46
South Dakota *	-	17	-	-	-	-	-	35	676	702	-	3	2	14
Nebraska	1	16	-	-	-	-	-	33	1,448	1,291	-	4	3	3
Kansas	5	65	2	-	-	-	-	93	2,514	2,765	-	35	24	20
SOUTH ATLANTIC	186	2,677	7	1	7	17	32	4,659	83,888	77,876	66	2,907	2,820	123
Delaware	2	60	-	-	-	-	-	35	1,165	1,111	-	35	29	-
Maryland	29	437	-	-	1	-	-	569	9,387	7,334	7	221	291	-
District of Columbia	8	143	-	-	-	-	-	300	5,184	7,349	4	231	239	-
Virginia	25	320	3	-	2	5	9	417	8,590	7,028	6	233	316	65
West Virginia	5	100	-	-	-	-	-	39	1,042	887	-	10	8	2
North Carolina *	39	428	-	-	2	-	9	595	12,014	10,534	-	347	324	1
South Carolina	10	154	2	1	2	12	14	490	7,899	8,086	4	208	244	5
Georgia	29	375	2	-	-	-	-	1,175	15,444	14,334	2	392	435	42
Florida	39	660	-	-	-	-	-	1,039	23,163	21,213	43	1,230	934	8
EAST SOUTH CENTRAL	82	1,009	4	2	8	-	5	1,477	27,788	26,472	29	437	455	85
Kentucky *	2	164	1	2	6	-	1	191	3,524	3,272	5	65	103	63
Tennessee	34	397	3	-	1	-	3	682	11,191	10,353	9	154	177	11
Alabama	35	312	-	-	-	-	1	267	7,365	7,397	8	123	88	11
Mississippi	11	136	-	-	1	-	-	337	5,708	5,450	7	95	87	-
WEST SOUTH CENTRAL	98	1,325	4	-	2	4	17	2,751	42,746	40,776	26	827	809	218
Arkansas *	16	182	4	-	-	-	2	97	4,300	4,370	-	23	43	25
Louisiana *	10	185	-	-	-	-	-	589	8,100	8,766	1	189	239	3
Oklahoma	12	127	-	-	-	2	13	217	3,981	3,249	1	38	53	53
Texas	60	831	-	-	2	2	2	1,848	26,365	24,391	24	577	474	137
MOUNTAIN	21	318	1	-	3	-	-	636	13,263	11,331	7	243	208	64
Montana	1	11	-	-	-	-	-	42	750	648	-	3	1	41
Idaho	-	7	-	-	-	-	-	26	696	671	-	7	2	-
Wyoming	1	9	1	-	1	-	-	25	340	262	-	2	2	4
Colorado	-	54	-	-	-	-	-	143	3,393	3,152	2	49	48	-
New Mexico	7	51	-	-	1	-	-	116	2,361	1,561	2	71	35	14
Arizona	12	147	-	-	1	-	-	200	3,527	3,184	2	82	87	5
Utah *	-	12	-	-	-	-	-	26	782	585	-	4	5	-
Nevada	-	27	-	-	-	-	-	58	1,414	1,268	1	25	28	-
PACIFIC	87	1,743	1	-	31	-	-	2,964	49,744	42,187	151	1,999	1,436	73
Washington	-	126	1	-	3	-	-	207	4,524	4,097	-	69	47	-
Oregon	6	69	-	-	-	-	-	130	3,711	3,685	2	43	32	1
California	74	1,361	-	-	28	-	-	2,498	39,441	32,705	149	1,870	1,342	69
Alaska	-	11	-	-	-	-	-	67	1,251	891	-	1	-	3
Hawaii	7	176	-	-	-	-	-	62	817	809	-	16	15	-
Guam *	-	24	-	-	-	-	-	-	152	---	-	2	---	-
Puerto Rico	10	188	-	-	-	-	-	31	1,099	1,175	6	267	337	25
Virgin Islands	-	3	-	-	-	-	-	4	57	278	1	12	25	-

\*Delayed reports: Tuberculosis: Ohio delete 2, N.C. 10  
Utah 4, Guam 1Gonorrhea: N.H. 15 Mil., N.H. delete 15 Civil,  
Ky. 96 Mil., Guam 10Syphilis: Ky. 1 Mil., Ark. 1, La. delete 2  
Rabies: S.D. 13



TABLE IV. DEATHS IN 121 UNITED STATES CITIES FOR WEEK ENDING MAY 10, 1975

(By place of occurrence and week of filing certificate. Excludes fetal deaths)

Area	All Causes					Pneumonia and Influenza All Ages	Area	All Causes					Pneumonia and Influenza All Ages
	All Ages	65 years and over	45-64 years	25-44 years	Under 1 year			All Ages	65 years and over	45-64 years	25-44 years	Under 1 year	
NEW ENGLAND	689	403	201	44	19	29	SOUTH ATLANTIC	1,069	556	326	89	38	30
Boston, Mass.	205	113	62	15	6	6	Atlanta, Ga.	114	46	36	17	4	2
Bridgeport, Conn.	41	31	9	1	—	3	Baltimore, Md.	211	106	71	14	7	4
Cambridge, Mass.	31	17	13	1	—	2	Charlotte, N. C.	53	25	19	2	—	2
Fall River, Mass.	24	17	6	1	—	1	Jacksonville, Fla.	60	30	24	1	1	—
Hartford, Conn.	58	24	22	5	4	2	Miami, Fla.	116	58	32	13	10	2
Lowell, Mass.	29	15	9	4	1	2	Norfolk, Va.	41	22	16	2	—	3
Lynn, Mass.	24	15	9	—	—	1	Richmond, Va.	84	41	31	5	3	5
New Bedford, Mass.	26	18	6	2	—	1	Savannah, Ga.	49	28	9	6	1	3
New Haven, Conn.	45	26	10	2	2	—	St. Petersburg, Fla.	80	67	11	2	—	1
Providence, R. I.	69	34	27	4	2	6	Tampa, Fla.	59	36	12	2	2	4
Somerville, Mass.	14	10	2	2	—	—	Washington, D. C.	162	76	51	23	9	4
Springfield, Mass.	49	27	13	6	2	3	Wilmington, Del.	40	21	14	2	1	—
Waterbury, Conn.	18	15	3	—	—	1							
Worcester, Mass.	56	41	10	1	2	1	EAST SOUTH CENTRAL	648	343	198	46	29	29
MIDDLE ATLANTIC	3,026	1,929	743	188	71	112	Birmingham, Ala.	89	46	26	7	6	4
Albany, N. Y.	49	32	13	1	1	1	Chattanooga, Tenn.	57	27	17	4	3	2
Allentown, Pa.	33	26	6	—	1	3	Knoxville, Tenn.	42	27	12	1	1	2
Buffalo, N. Y.	117	75	29	5	3	13	Louisville, Ky.	121	63	37	10	6	13
Camden, N. J.	27	19	8	—	—	1	Memphis, Tenn.	150	87	45	6	5	1
Elizabeth, N. J.	29	20	7	—	1	1	Mobile, Ala.	48	25	16	2	3	—
Erie, Pa.	32	17	11	1	2	2	Montgomery, Ala.	34	15	11	3	3	1
Jersey City, N. J.	60	45	11	3	1	1	Nashville, Tenn.	107	53	34	13	2	6
Newark, N. J.	53	34	11	7	1	4	WEST SOUTH CENTRAL	1,036	560	293	92	44	24
New York City, N. Y.	1,510	976	352	104	30	54	Austin, Tex.	23	12	6	2	2	—
Paterson, N. J.	39	23	6	7	1	2	Baton Rouge, La.	41	22	12	3	3	1
Philadelphia, Pa.	502	303	139	32	12	5	Corpus Christi, Tex.	37	15	14	5	1	—
Pittsburgh, Pa.	169	97	52	7	6	9	Dallas, Tex.	171	90	53	9	9	3
Reading, Pa.	43	33	6	2	—	1	El Paso, Tex.	51	31	8	5	3	2
Rochester, N. Y.	115	72	32	8	—	7	Fort Worth, Tex.	72	37	22	8	1	1
Schenectady, N. Y.	22	13	7	—	1	—	Houston, Tex.	190	89	66	20	5	2
Scranton, Pa.	39	23	13	3	—	2	Little Rock, Ark.	53	33	16	1	2	—
Syracuse, N. Y.	81	48	19	2	10	—	New Orleans, La.	128	79	34	10	5	2
Trenton, N. J.	47	32	10	2	1	2	San Antonio, Tex.	140	84	21	15	10	6
Utica, N. Y.	21	17	2	2	—	3	Shreveport, La.	49	23	15	8	2	5
Yonkers, N. Y.	38	24	9	2	—	1	Tulsa, Okla.	81	45	26	6	1	2
EAST NORTH CENTRAL	2,266	1,278	653	166	76	39	MOUNTAIN	486	280	114	39	24	27
Akron, Ohio	79	49	22	4	2	—	Albuquerque, N. Mex.	51	25	17	3	4	5
Canton, Ohio	44	27	13	—	4	1	Colorado Springs, Colo.	33	23	4	3	—	2
Chicago, Ill.	568	305	175	41	20	9	Denver, Colo.	105	57	25	11	7	8
Cincinnati, Ohio	132	76	37	10	4	2	Las Vegas, Nev.	20	9	4	3	1	—
Cleveland, Ohio	182	104	55	13	4	4	Ogden, Utah	22	15	3	1	1	2
Columbus, Ohio	133	70	44	5	10	—	Phoenix, Ariz.	106	59	25	10	3	2
Dayton, Ohio	112	59	32	13	2	—	Pueblo, Colo.	34	22	7	3	1	7
Detroit, Mich.	310	155	87	34	12	3	Salt Lake City, Utah	39	24	10	—	4	1
Evansville, Ind.	37	20	11	1	1	1	Tucson, Ariz.	76	46	19	5	3	—
Fort Wayne, Ind.	40	21	14	2	1	1	PACIFIC	1,513	959	377	92	43	53
Gary, Ind.	25	13	8	2	1	4	Berkeley, Calif.	21	18	2	1	—	—
Grand Rapids, Mich.	27	18	7	—	1	3	Fresno, Calif.	49	28	10	6	3	3
Indianapolis, Ind.	139	95	27	10	3	1	Glendale, Calif.	32	18	10	2	1	1
Madison, Wis.	40	24	8	4	2	7	Honolulu, Hawaii	46	24	15	6	—	5
Milwaukee, Wis.	139	88	35	7	5	3	Long Beach, Calif.	76	54	16	4	1	—
Peoria, Ill.	39	24	10	4	—	—	Los Angeles, Calif.	437	268	117	28	10	6
Rockford, Ill.	33	20	12	—	1	—	Oakland, Calif.	69	45	9	5	6	3
South Bend, Ind.	33	24	8	1	—	—	Pasadena, Calif.	19	18	1	—	—	—
Toledo, Ohio	107	64	30	10	2	—	Portland, Oreg.	132	86	35	2	6	12
Youngstown, Ohio	47	22	18	5	1	—	Sacramento, Calif.	62	43	16	3	—	2
WEST NORTH CENTRAL	735	459	173	42	31	29	San Diego, Calif.	123	81	28	7	5	3
Des Moines, Iowa	89	63	18	3	2	1	San Francisco, Calif.	143	84	41	10	4	4
Duluth, Minn.	26	21	2	1	1	2	San Jose, Calif.	59	31	18	5	2	2
Kansas City, Kans.	39	20	15	1	—	5	Seattle, Wash.	170	104	45	12	4	7
Kansas City, Mo.	107	74	16	6	7	4	Spokane, Wash.	39	28	9	—	1	4
Lincoln, Nebr.	32	26	3	2	—	2	Tacoma, Wash.	36	29	5	1	—	1
Minneapolis, Minn.	104	64	27	5	6	2	Total	11,468	6,767	3,078	798	375	372
Omaha, Nebr.	61	35	18	3	4	2	Expected Number	12,114	7,211	3,244	797	367	392
St. Louis, Mo.	138	74	41	13	6	2							
St. Paul, Minn.	82	48	21	5	4	7							
Wichita, Kans.	57	34	12	3	1	2							

\*Estimate based on average percent of divisional total

## SKIN RASH—Continued

Coliform counts in both pools were less than 2.2 MPN (most probable number) per 100 ml, which is the upper limit of acceptable levels in Minnesota. However, total plate counts were 230 and 260; the acceptable level in Minnesota is 200. *Pseudomonas aeruginosa*, serogroup 11, was isolated from both pools and from the skin lesions of 2 affected bathers. An isolate of the same serogroup was recovered from 1 of 4 control pools in the area.

On March 4 the swimming pool's free bromine level was 1.0 part per million (ppm), which is the accepted level in Minnesota; the water temperature was 25.5 C. The free chlorine level in the whirlpool was 0.3 ppm, below the recommended limit of 0.5 ppm; and the water temperature was 38 C. Investigation revealed that disinfecting equipment was not operating properly.

Both pools were closed and drained, their filters were changed, and malfunctions were corrected. More frequent monitoring of disinfectant levels was instituted after reopening, and no further cases of rash illness or isolation of *pseudomonas* have been observed.

(Reported by Elliott Marston and Ronald Spong, Environmental Health Specialists, Robert Mood, Chief Sanitarian, Bloomington, Minnesota; Keith Peacock, Bacteriologist, Barbara Thorsen, Senior Bacteriologist, Henry Bauer, PhD, Di-

rector, Medical Laboratories, Russell Frazier, MS, Director, Environmental Health Laboratories, John Washburn, Supervisor, Epidemiology Unit, Minnesota State Health Department; Bureau of Laboratories and Bureau of Epidemiology, CDC, and an EIS Officer.)

## Editorial Note

Although "swimmer's ear" is a better-known manifestation of *pseudomonas* infection acquired from pools, an outbreak of rash illness quite similar to this one occurred in Minnesota in 1972 (1). Combined exposure to a swimming pool and whirlpool were implicated in that episode. A heavy bather load, water turbulence, and high water temperatures make whirlpools more difficult to disinfect and may contribute to the multiplication of *pseudomonas*. Properly operating disinfecting equipment and frequent monitoring of disinfectant levels especially during heavy use are recommended to help prevent such outbreaks. Physicians encountering patients with a pustular rash of unexplained etiology are encouraged to ask about recent pool exposure. Pool operators and sanitarians should also be made aware of this problem.

## Reference

1. McCausland WJ and Cox PJ: *Pseudomonas* infection traced to motel whirlpool. J Environ Health 37:455-459, 1975

## RUBELLA—Washington

In December 1974 and January 1975, a total of 74 cases of rubella were reported at a high school in King County, Washington (Figure 1). Seventy-two cases occurred among the student population of 1,983 (3.6%), and 2 cases occurred in faculty members. There were no known cases in pregnant women. Two symptomatic students were examined, and acute and convalescent serum samples demonstrated a significant rise in titer in each student by the rubella hemagglutination-inhibition test. On January 31, a questionnaire was distributed to all students present that day. There was a significantly lower attack rate for the 10th grade as compared to the 11th and 12th ( $p < 0.001$ ) (Table 3).

In the week of January 26 the epidemic was verified as being rubella, and school officials were notified that potentially pregnant women exposed to rubella should immediately see their physician. An active program of immunization in grade schools was already underway before the epidemic; however, because of the risk to pregnant women, rubella vaccination was offered only to male high school students.

(Reported by Nancy Barbo, RN, School Nurse, King County; M Ward Hinds, MD, North District Health Officer, Paul Bonin, MS, Director of Laboratories, Lawrence Bergner, MD, Director, Seattle-King County Health Department; Thieu L Nghiem, MD, State Epidemiologist, Washington State Department of Social and Health Services.)

Figure 1  
RUBELLA CASES IN A HIGH SCHOOL, BY WEEK OF ONSET  
KING COUNTY, WASHINGTON  
DECEMBER 15, 1974—JANUARY 26, 1975

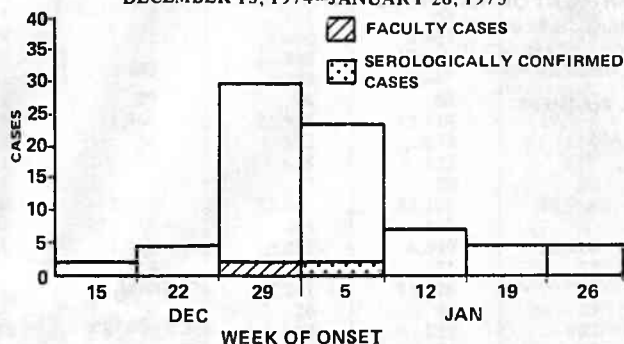


Table 3  
Attack Rates for Rubella in High School Students  
King County, Washington, December 1974—January 1975

	10th Grade n=773	11th Grade n=669	12th Grade n=511	Total n=1,983
	Attack Rate			
Men	1.2%	2.9%	6.7%	3.2%
Women	2.0%	6.7%	4.1%	4.2%
Total	1.6%	4.6%	5.5%	3.6%

CURRENT TRENDS  
UPDATE ON VIETNAMESE REFUGEE HEALTH STATUS

As of May 14, 111,618 refugees have arrived on Guam or Wake Islands, and 56,569 have proceeded to the United States. Of this number 40,174 were still in 1 of the 3 refugee camps in the United States (Eglin, Pendleton, and Chaffe).

In general the communicable disease problems of the refugees have been minimal and have continued to involve respiratory infections, skin infections, gastro-intestinal problems, and conjunctivitis. In addition, in the past week there have been 20 cases of malaria reported (2 on the mainland) for a total of 22, 1 case of diphtheria, 1 case of pertussis, and 1 case of typhoid fever. No additional cases of dengue fever have been reported on Guam, leaving the total at 5; 2 of the cases have now been confirmed by laboratory tests.

Immunization programs continue at all 5 camps and visa medical clearance examinations, including serologies and tuberculosis screening, are being conducted in the 3 U.S. camps. Of 16,199 X-rays taken at the camps, 215 have been suspicious, and 12 of the persons with suspicious X-rays have been sputum positive (3 of the 12 were returning Americans). Of 7,418 purified protein derivative (PPD) skin tests given, 2,005 have been read and 333 (17%) were positive. State and/or local health departments will be notified of the status of refugees requiring follow-up.

Initial testing by rapid plasma reagin (RPR) card tests has shown 184 of 13,944 (1.3%) tests were positive. CDC

recommends that further evidence for syphilis infection (including clinical evaluation and FTA-ABS confirmation of the RPR test results) be obtained before offering treatment to refugees with positive RPR tests. This is because the incidence of syphilis is not high in South Vietnam, because the rate of false-positive reactions to non-treponemal tests for syphilis (such as the RPR and venereal disease research laboratory tests) does appear to be high in this population, and because, even among refugees whose non-treponemal tests are truly indicative of past or present syphilis infection, it is anticipated that a significant proportion of refugees will have already received appropriate therapy in the past.

Dengue is not expected to pose any risk to the United States. Because the incubation period of dengue is usually 5-10 days, persons exposed in Viet Nam will have clinical illness either before they leave Guam or in many cases before they arrive there. The period of viremia is relatively short, therefore, it would be unlikely that refugees could arrive in the United States with viremia. Aedes mosquitoes have been found on Guam, and vector control procedures are in operation to prevent transmission of the virus. Vector control teams are also working at all 3 U.S. camps to eliminate any possibility of transmission in this country.

*(Reported by the Center for Disease Control.)*

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The data in this report are provisional, based on weekly telegraphs to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday.

In addition to the established procedures for reporting morbidity and mortality, the editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials.

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